

Application No. 10/601,927
Amendment dated September 26, 2005
Reply to Office Action of June 27, 2005

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listing, of claims in the application.

LISTING OF CLAIMS:

1. (Currently amended) An airbag apparatus for a motorcycle for protecting a rider in the event of frontal collisions, the airbag apparatus comprising:
a retainer for the airbag mounted to ~~a lower portion of a~~the motorcycle;
an airbag for being deployed in a primarily upward, vertical direction;
and

inflation control means spaced upwardly from the retainer upon airbag inflation for restricting inflation of the airbag in a predetermined fore and aft direction that is generally aligned with ~~the rider movement~~ due to frontal collisions and allowing inflation of the airbag in the upward vertical direction ~~transverse to the inflation direction aligned with the rider movement~~ with the inflation control means sized so that size of the inflated airbag in the upward vertical direction is substantially larger than in the predetermined fore and aft direction.

2. (Currently amended) The airbag apparatus of claim 1 wherein the inflation control means comprises tethering means for connecting generally opposing portions of the airbag so as to restrict airbag inflation in the fore and aft direction generally aligned with the rider movement.

3. (Currently amended) The airbag apparatus of claim 1 wherein the inflation control means includes at least one tether that is connected to the airbag at an inflated airbag portion adjacent to the rider and which generally extends away from the rider in the fore and aft direction generally aligned with the rider movement.

4. (Cancelled)

5. (Previously Presented) The airbag apparatus of claim 1 wherein the airbag has a predetermined inflated volume, and
an inflator sized to inflate the predetermined airbag volume with the inflation control means optimizing the inflated airbag volume extending in the upward direction for maximized rider protection while keeping the size of the inflator to a minimum.

6. (Original) The airbag apparatus of claim 1 wherein the airbag comprises a central panel and side panels, and the inflation control means comprises a connector attached to the central panel at one end and to either the central panel or the side panels at the opposite end thereof.

7. (Currently amended) The airbag apparatus of claim 1 wherein the inflation control means increases rigidity of the airbag in the fore and aft direction generally aligned with the rider movement over rigidity of the airbag in the upward direction.

8. (Currently amended) The airbag apparatus of claim 1 wherein the inflation control means includes a tether in the airbag that extends generally in a the fore and aft direction as the airbag is deployed.

9. (Previously Presented) The airbag apparatus of claim 1 wherein the inflation control means includes a tether attached to the airbag at generally opposing forward and rearward portions therein so that upon airbag deployment and full inflation thereof a recess is formed in the airbag adjacent the rider.

10. (Original) The airbag apparatus of claim 1 wherein the inflation control means includes a tether or tethers that are connected at predetermined positions in the airbag including generally opposing forward and rearward positions.

11. (Original) The airbag apparatus of claim 10 wherein the rearward position is adjacent the rider and the forward position includes a pair of connections on either side of the airbag toward the forward side thereof.

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12. (Original) The airbag apparatus of claim 10 wherein the predetermined positions includes a generally upper position.

13. (Currently amended) An airbag apparatus for a motorcycle having front and rear wheels and a seat for a rider spaced rearward of the front wheel, the airbag apparatus comprises:

a retainer;

an airbag for being deployed from the retainer forwardly of the seat in the event of frontal collisions;

at least one direction control member associated with the airbag to optimize airbag inflation in a predetermined, primary inflation direction; and

a plurality of connections between the at least one control member and the airbag that are at predetermined positions on the airbag and spaced from the retainer upon airbag inflation such that the at least one control member and the connections to the airbag ~~cause restrict inflation of the airbag in a the predetermined inflation-controlled direction to be transverse to that is generally aligned with~~ forward movement of the rider caused by frontal collisions so that size of the inflated airbag is substantially less in the controlled direction than in the primary inflation direction that is transverse to the controlled direction and to minimize time for airbag inflation in the primary inflation direction and maximize an area of the airbag that is generally parallel to a front side of the rider.

14. (Original) The airbag apparatus of claim 13 wherein the inflated airbag has a rear that is adjacent the rider and a front that is spaced forwardly therefrom, and the plurality of connections include connections that are generally disposed at the front and rear of the airbag to restrict size of the inflated airbag therebetween.

15. (Original) The airbag apparatus of claim 14 wherein the front connection comprises a pair of laterally spaced connections that generally restrict the size of the inflated airbag in a lateral direction.

16. (Currently Amended) The airbag apparatus of claim 14 wherein the plurality of connections includes a generally upper connection beyond which the airbag extends ~~when inflated~~ upon inflation.

17. (Currently amended) The airbag apparatus of claim 13 wherein the retainer has the airbag stowed therein and is positioned to allow the airbag to inflate upwardly and forwardly and rearwardly, and the predetermined positions of the connections between the at least one control member and the airbag cause the ~~predetermined primary inflation~~ direction to be in a generally upward direction so that size of the inflated airbag is maximized in the upward direction and restricted in the controlled direction that is a forward and rearward direction.

18. (Original) The airbag apparatus of claim 17 wherein the predetermined positions of the connections restrict size of the inflated airbag in a lateral direction transverse to the upward direction and the forward and rearward direction.

19. (Currently amended) A method for manufacturing an airbag apparatus for a motorcycle, the method comprising:

providing an airbag and a retainer therefor;

connecting a first end of at least one direction control member to the airbag, the first end being spaced by a first predetermined distance from the retainer upon inflation of the airbag; and

connecting a second end of the at least one direction control member to the airbag, the second end being spaced by a second predetermined distance from the retainer upon inflation of the airbag that is approximately equal to the first predetermined distance of the first end from the retainer to maximize spaced from the retainer such that inflation of the airbag is optimized in a predetermined direction for maximizing protection of the rider in the event of frontal collisions~~front collisions with the motorcycle and so that the control member is not connected to the retainer with the airbag inflated.~~

20. (Currently Amended) The method of claim 19 wherein the at least one direction control member is connected to the airbag by connecting generally opposing portions of the airbag with at least one tether so that the tether is extended with airbag inflation and the extended tether restricts inflation size of the airbag between the generally opposing portions.

21. (New) The method of claim 19 further comprising connecting a third end of the at least one direction control member to the airbag, the third end being spaced a third distance from the retainer that is greater than the predetermined distances of the first and second ends from the retainer.

22. (New) The method of claim 19 wherein connecting at least one direction control member to the airbag includes attaching opposite ends of at least one tether to the inside of the airbag.

23. (New) The airbag apparatus of claim 13 wherein the at least one direction control member includes a tether having opposite ends attached to the inside of the airbag.